IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

PATENT APPLICATION

Appellant:	**Mooi Choo Chuah**	
Serial No.:	**09/764,510**	
Examiner:	**Nguyen, Hanh N.**	
Filed:	**January 18, 2001**	Group Art Unit: **2616**
Confirmation #:	**6393**	Case: **Chuah 54 (LCNT/123739)**

Title: **UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM (UMTS) QUALITY OF SERVICE (QoS) SUPPORTING VARIABLE QoS NEGOTIATION**

MAIL STOP APPEAL BRIEF-PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

APPEAL BRIEF

Appellant submits this Appeal Brief to the Board of Patent Appeals and Interferences on appeal from the decision of the Examiner of Group Art Unit 2616 mailed August 24, 2006, finally rejecting claims 1-3, 5-9 and 14-17. The final rejection of claims 1-3, 5-9 and 14-17 is appealed.

In the event that an extension of time is required for this Appeal Brief to be considered timely, and a petition therefor does not otherwise accompany this response, any necessary extension of time is hereby petitioned for.

The Commissioner is authorized to charge the $500 Appeal Brief filing fee, and any additional fees required to make this Appeal Brief timely and acceptable to the Office, to counsel's Deposit Account No. 20-0782/LCNT/123739.

TABLE OF CONTENTS

Real Party in Interest

The present application has been assigned to Lucent Technologies Inc. of Murray Hill, New Jersey.

Related Appeals and Interferences

Appellant asserts that no other appeals or interferences are known to Appellant, Appellant's legal representative, or assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of Claims

Claims 1-3, 5-9 and 14-17 are pending in the application. Claims 1-15 were originally filed in the application; claims 16-17 were added by amendment; Claims 1-3, 5-9 and 14-17 were amended; and claims 4 and 10-13 were canceled. Claims 1-3, 5-9 and 14-17 stand finally rejected as discussed below. The final rejections of claims 1-3, 5-9 and 14-17 are appealed. The pending claims are shown in the attached Claims Appendix.

Status of Amendments

All claim amendments have been entered.

Summary of Claimed Subject Matter

The embodiments of the present invention are generally directed to providing quality of service (QoS) negotiation between a mobile station and the wireless system. The QoS negotiation supports variable QoS for services between the mobile station and the wireless system. During the QoS negotiation, the mobile station issues a request for preferred ones of traffic classes in a priority order. The request includes a QoS information element (IE) having at least one traffic class field for conveying the request for preferred ones of traffic classes in the priority order. When resources are unavailable for granting a first traffic class preference, the wireless system successively checks, according to the specified priority order, whether enough resources are available for at least one other traffic class preference without requiring additional transmissions from the mobile station to the wireless system. By allowing multiple traffic classes to be specified in a priority order using one transaction between the mobile station and the wireless system, the QoS negotiation of the present invention reduces delays in establishing user connections and conserves network resources.

A method according to at least one embodiment of the present invention includes negotiating a variable quality of service between a mobile station and a wireless data network when the mobile station is connected to the wireless data network. During the negotiation, the mobile station issues a request for preferred ones of traffic classes in a priority order. The request includes a quality of service information element having at least one traffic class field for conveying the request for preferred ones of traffic classes in the priority order. When resources are unavailable for granting a first traffic class preference, the network successively checks, according to the priority order, if enough resources are available for at least one other traffic class preference without requiring additional mobile station transmissions.

A method according to at least one embodiment of the present invention includes a method for use by a first packet server of a wireless network where the first packet server is any packet processor in the network. The method includes the step of the first packet server exchanging messages with a second packet server to communicate at least one service to a mobile station. The exchanging step includes transmitting, from the first packet server to the second packet server, a message including a quality of

service information element having a quality of service class field that is indicative of a request for preferred ones of traffic classes in a priority order. When resources are unavailable for granting a first traffic class preference, the network successively checks, according to the priority order, if enough resources are available for at least one other traffic class preference, without requiring additional transmissions.

A packet server according to at least one embodiment of the present invention includes a transceiver for exchanging messages with a second packet server for the purpose of providing at least one service to a mobile station, and a processor for causing the second packet server to transmit a message including a quality of service information element having at least one traffic class field that conveys requests for preferred ones of traffic classes in a priority order, and when resources are unavailable for granting a first traffic class preference in the request for multiple traffic classes, the processor successively checks, according to the priority order, if enough resources are available for at least one other traffic class preference. The successive checks by the processor are performed without requiring additional transmissions.

A transmission frame according to at least one embodiment of the present invention represents data embodied in a wireless transmission signal. The transmission frame includes a quality of service class field and at least one traffic class field. The quality of service class field is indicative of a request for preferred ones of traffic classes in a priority order. The at least one traffic class field conveys the priority order.

A method according to at least one embodiment of the present invention includes requesting from a wireless network preferred ones of traffic classes in a priority order as part of a variable quality of service negotiation and, when resources are unavailable for granting a first traffic class preference, the network successively determines, according to the priority order, whether enough resources are available to provide a second traffic class preference. The requesting from the wireless network of the preferred ones of traffic classes includes transmitting to the wireless data network a quality of service information element having at least one quality of service class field that is indicative of a request for preferred ones of traffic classes in said priority order.

For the convenience of the Board of Patent Appeals and Interferences, Appellant's independent claims are presented below in claim format with reference

numerals corresponding to the figures and appropriate citations to at least one portion of the specification for each element of the appealed claims.

Claim 1 positively recites (with reference numerals and cites to Appellant's specification added, where applicable):

1. (Previously presented) A method for use by a mobile station (205), the method comprising the step of:

negotiating a variable quality of service between a mobile station (205) and a wireless data network (215, 220, 225), when said mobile station (205) is connected to said wireless data network (215, 220, 225); (Pg. 7, Lines 26-28) and

wherein during said negotiation said mobile station issues a request for preferred ones of traffic classes in a priority order, wherein the request includes a quality of service information element having at least one traffic class field for conveying the request for preferred ones of traffic classes in said priority order (FIG. 4 and FIG. 5; FIG. 6 and FIG. 7; Pg. 5, Lines 5-17; Pg. 5, Line 30 – Pg. 6, Line 5; Pg. 7, Line 15 – 25);

wherein, when resources are unavailable for granting a first traffic class preference, said network successively checks, according to said priority order, if enough resources are available for at least one other traffic class preference without requiring additional mobile station transmissions (Pg. 6, Lines 19-24).

Claim 6 positively recites (with reference numerals and cites to Appellant's specification added, where applicable):

6. (Previously presented) A method for use by a first packet server (220, 225) of a wireless network , the first packet server being any packet processor in said network, the method comprising the steps of:

the first packet server (220,225) exchanging messages with a second packet server (220,225) to communicate at least one service to a mobile station (205), (Pg. 7, Lines 26-28)

wherein the exchanging step includes the step of:

transmitting from the first packet server (220,225) to the second packet server (220,225) a message including a quality of service information element having a quality

of service class field that is indicative of a request for preferred ones of traffic classes in a priority order (FIG. 5; FIG. 7; Pg. 5, Lines 5-17; Pg. 5, Line 30 – Pg. 6, Line 5; Pg. 7, Line 15 – 25), and when resources are unavailable for granting a first traffic class preference, said network successively checks, according to said priority order, if enough resources are available for at least one other traffic class preference without requiring additional transmissions. (Pg. 6, Lines 19-24)

Claim 14 positively recites (with reference numerals and cites to Appellant's specification added, where applicable):

14. (Previously presented) A packet server (220, 225) comprising:

a transceiver (665) for exchanging messages with a second packet server (220, 225) for a purpose of providing at least one service to a mobile station (205); and

a processor (650) for causing the second packet server (220, 225) to transmit a message including a quality of service information element, said element having at least one traffic class field that conveys requests for preferred ones of traffic classes in a priority order (FIG. 4; FIG. 6; Pg. 5, Lines 5-17; Pg. 5, Line 30 – Pg. 6, Line 5; Pg. 7, Line 15 – 25), and when resources are unavailable for granting a first traffic class preference in said request for multiple traffic classes, said processor successively checks, according to said priority order, if enough resources are available for at least one other traffic class preference without requiring additional transmissions. (Pg. 6, Lines 19-24)

Claim 15 positively recites (with reference numerals and cites to Appellant's specification added, where applicable):

15. (Previously presented) A transmission frame (FIG. 4; FIG. 6) representing data embodied in a wireless transmission signal, the transmission frame comprising:

a quality of service class field (FIG. 4; FIG. 6) that is indicative of a request for preferred ones of traffic classes in a priority order; and

at least one traffic class field (FIG. 4; FIG. 6) that conveys the priority order. (Pg. 5, Lines 5-17; Pg. 5, Line 30 – Pg. 6, Line 5; Pg. 7, Line 15 – 25)

Claim 16 positively recites (with reference numerals and cites to Appellant's specification added, where applicable):

16. (Previously presented) A method for use by a mobile station (205) attached to a wireless network, the method comprising the step of:

requesting from said wireless network preferred ones of traffic classes in a priority order as part of a variable quality of service negotiation, and when resources are unavailable for granting a first traffic class preference, said network successively determines, according to said priority order, whether enough resources are available to provide a second traffic class preference; (Pg. 6, Lines 19-24)

wherein requesting from said wireless network preferred ones of traffic classes comprises transmitting to the wireless data network a quality of service information element having at least one quality of service class field that is indicative of a request for preferred ones of traffic classes in said priority order (FIG. 4 and FIG. 5; FIG. 6 and FIG. 7; Pg. 5, Lines 5-17; Pg. 5, Line 30 – Pg. 6, Line 5; Pg. 7, Line 15 – 25)

Grounds of Rejection to be Reviewed on Appeal

The Examiner has rejected claims 1-3, 5-9 and 14-17 as being obvious and unpatentable under the provisions of 35 U.S.C. §103(a). In particular, the Examiner has rejected claims 1-3, 5-9 and 14-17 as being unpatentable over Kannas et al. (U.S. Patent No. 6,683,853 B1, hereinafter "Kannas") in view of Rinne (U.S. Patent No. 6,845,100, hereinafter "Rinne").

Arguments

35 U.S.C. §103(a) Rejection of Claims 1-3, 5-9 and 14-17

A. Claims 1-3, 5:

The Examiner has rejected claims 1-3 and 5 as being obvious and unpatentable under the provisions of 35 U.S.C. §103(a). In particular, the Examiner has rejected claims 1-3 and 5 as being unpatentable over Kannas in view of Rinne.

In general, Kannas teaches a system for allocating system resources to provide a selected quality of service in connection with data communications. As taught in Kannas, a mobile user station requests a first quality of service level and, in response to a determination that system resources for providing the first quality of service level are not available, the system assigns resources for providing a second quality of service level. The system monitors the availability of system resources and if system resources for providing the second quality of service level become available, the system allocates resources to support the first quality of service level. (Kannas, Abstract).

Kannas, however, fails to teach or suggest Appellant's invention of claim 1, as a whole. Namely, as admitted by the Examiner, Kannas fails to teach or suggest a quality of service information element having at least one traffic class field for conveying a request for the preferred ones of traffic classes in the priority order. (See Second Final Office Action, Dated 8/24/06, Pg. 3). Thus, Kannas fails to teach or suggest Appellant's invention, as a whole. As such, the Examiner cites Rinne, asserting that Rinne discloses the limitation of a quality of service information element having at least one traffic class field for conveying a request for preferred ones of traffic classes in a priority order. Rinne, however, fails to bridge the substantial gap between Kannas and Appellant's claim 1.

In general, Rinne teaches quality of service (QoS) mechanisms for wireless transmission of IP traffic. In particular, IP packets classified according to QoS classes and QoS subclasses are mapped onto radio bearers for transmission to mobile devices. (Rinne, Abstract). Rinne, however, alone or in combination with Kannas, fails to teach or suggest Appellant's invention, as a whole. Namely, Rinne fails to teach or suggest at

least the limitation of a quality of service information element having at least one traffic class field for conveying a request for preferred ones of traffic classes in a priority order, as claimed in Appellant's claim 1.

Rather, Rinne merely teaches a network element operating as an interface between an IP network and a radio network. The network element receives IP packets from the IP network and maps the IP packets to radio bearers of the radio network. A traffic class-protocol field is included within each packet received at the network element. As taught in Rinne, packets received from the IP network are classified in different QoS classes using the traffic class-protocol field values included within the respective packets. The IP packets classified within each QoS class may be further classified into QoS sub-classes using the traffic class-protocol field. The traffic class-protocol field is divided into 5 QoS classes, where each QoS class includes a range of traffic class values. For example, QoS Class 1 includes five traffic class levels (10 – 14), where traffic class levels 10 and 14 are the highest and lowest traffic class priority levels in QoS Class 1. The classified packets are mapped to radio bearers of a radio network interface according to QoS class and QoS sub-class for transmission to mobile devices. (Rinne, FIG. 5, Col. 7, Line 57 – Col. 8, Line 35).

Specifically, Rinne states that "FIG. 5 shows QoS mapping of IP packets to the radio interface. IP packets arriving from an IP network are shown comprising several different flows…FIG. 5 shows several such flows being provided to a QOS classifier, where they are classified according to differing QoS classes." (Rinne, Col. 7, Line 57 – Col. 8, Line 4, Emphasis added). Rinne further states that "…under each flow of packets belonging to a given QoS class, there can be some QoS differentiation on a packet-by packet basis, such as: QoS Subclass (i,j), e.g., (2,18) is typically QoS Class 2, with traffic class value 18. However, when packets appear with QoS class 2, with traffic class value 15, it will get higher scheduling privileges in the Radio Interface Layer 2." (Rinne, Col. 8, Lines 17-24, Emphasis added). Furthermore, Rinne states that "…the various QoS classified packets are provided to a PDCP…layer at the RAN, where the packets are stored in various RLC buffers corresponding to the various classes or subclasses of the QoS classified packets. After that the packets are

transferred by the MAC layer to the physical layer for transmission over the radio interface...." (Rinne, Col. 8, Lines 29 – 35).

From the cited portion of Rinne, as well as Figure 5 of Rinne, it is clear that Rinne merely teaches classifying packets received from an IP network into different QoS classes and associated QoS sub-classes for mapping the packets to radio bearers for transmission to mobile devices using a radio network. The packets are classified into QoS classes according to traffic class-protocol field values included within the respective packets. A traffic class-protocol field value included within a received packet and used by a QoS classifier for classifying the received packet into a QoS class and QoS sub-class for QoS-based transmission over a radio network, as taught in Rinne, is not a traffic class field for conveying a request, from a mobile station to a wireless network, for preferred ones of traffic classes in a priority order, as claimed in Appellant's claim 1. The traffic class-protocol field value included in a packet of the Rinne system specifies a QoS class and QoS subclass in which that packet should be classified, not a request for preferred ones of traffic classes, much less a request for preferred ones of traffic classes in a priority order, as claimed in Appellant's claim 1.

Furthermore, QoS-based classification of packets for transmission from the wireless network to mobile stations, as taught in Rinne, is completely different than, and has nothing to do with, quality of service negotiation between a mobile station and wireless network, as claimed in Appellant's claim 1. More specifically, as taught in Rinne, QoS-based classifying and sorting of packets is performed on packets received over an IP network and intended for transmission from a wireless network to mobile stations using a radio network. By contrast, in Appellant's claim 1, the at least one traffic class field for conveying a request for preferred ones of traffic classes in a priority order is transmitted from a mobile station to a wireless network during a QoS negotiation between the mobile station and the wireless network. In other words, Appellant's invention is directed toward a request initiated by a mobile station during quality of service negotiation with a wireless data network, while Rinne is directed toward classifying individual data packets received over an IP network in order to map the individual data packets to radio bearers for transmission over a radio network.

This individual processing of packets as they are received, as taught in Rinne, is not a quality of service negotiation, as claimed in Appellant's claim 1. Thus, not only does the traffic class-protocol field of Rinne fail to teach or even suggest a traffic class field for conveying a request for preferred ones of traffic classes in a priority order, as claimed in Appellant's claim 1, but the traffic class-protocol field of Rinne is used in a completely different context than the request for preferred ones of traffic classes in a priority order of Appellant's claim 1. As such, Rinne fails to teach or suggest Appellant's claim 1, as a whole.

In the Second Final Office Action (dated August 24, 2006), the Examiner asserts that the QoS classes and the set of associated traffic class-protocol field values operates as a priority table which teaches Appellant's information element. The QoS classes and the set of associated traffic class-protocol field values disclosed in Rinne, however, are not included within any request transmitted by the network element, much less any request transmitted by a mobile station. Rather, the QoS classes and the set of associated traffic class-protocol field values of Rinne are used by the network element in order to classify received packets for controlling transmission of packets over a radio network. As such, while the QoS classes and the set of associated traffic class-protocol field values taught in Rinne may be used by the network element as a local lookup table for classifying received packets, such a lookup table is simply not a quality of service information element having at least one traffic class field for conveying a request for preferred ones of traffic classes that is issued by a mobile station to a wireless network during negotiation between the mobile station and a wireless data network, as claimed in Appellant's claim 1.

Furthermore, in the Second Final Office Action (dated August 24, 2006), the Examiner cites the traffic class-protocol field values disclosed in Rinne for teaching the preferred ones of traffic classes of Appellant's invention. The traffic class-protocol field values, however, do not teach preferred ones of traffic classes. Rather, the traffic class-protocol field values include every possible traffic class-protocol field value from 0 through 255, which happen to be divided into five QOS classes. Specifically, as disclosed in Rinne, QOS class 1 includes traffic class values 10 – 14, QOS class 2 includes traffic class values 15 – 19, QOS class 3 includes traffic class values 20 – 39,

QOS class 4 includes traffic class values 40 – 127, and QOS class 5 includes traffic class values 128 – 255. (Rinne, Col. 8, Lines 11 – 16). A list of traffic class-protocol field values that provide QoS differentiation (i.e., differentiation between packets between and within QOS classes) for packets awaiting transmission to mobile devices, as taught in Rinne, does not teach or suggest preferred ones of traffic classes specified in a request from a mobile station to a wireless network, as claimed in Appellant's claim 1.

As such, the traffic class-protocol field, as taught in Rinne, is not a quality of service information element conveying a request for preferred ones of traffic classes, as claimed in Appellant's claim 1. Thus, Rinne fails to teach or suggest a quality of service information element having at least one traffic class field for conveying a request for preferred ones of traffic classes in a priority order from a mobile station to a wireless network, as claimed in Appellant's claim 1. Furthermore, Rinne is devoid of any teaching or suggestion of specifying preferred ones of traffic classes in a priority order, as claimed in Appellant's claim 1. As such, Rinne fails to teach or suggest Appellant's claim 1, as a whole.

As such, since Kannas and Rinne both fail to teach or suggest a quality of service information element having at least one traffic class field for conveying the request for preferred ones of traffic classes in a priority order, Appellant respectfully submits that no conceivable combination of Kannas and Rinne could teach a quality of service information element having at least one traffic class field for conveying the request for preferred ones of traffic classes in a priority order, as claimed in Appellant's claim 1. As such, Kannas and Rinne, alone or in combination, fail to teach or suggest Appellant's claim 1, as a whole.

Furthermore, Appellant submits that even if the systems of Kannas and Rinne could be operably combined, the resulting system would merely be a system in which a mobile station is assigned a quality of service level as taught in Kannas, and each packet associated with that mobile station is classified for transmission using the traffic class-protocol field as taught in Rinne. In other words, if multiple mobile stations are assigned a quality of service level corresponding to QoS class 2 taught in Rinne, transmission of packets for each of those multiple mobile stations may be further

prioritized using the traffic class value associated with QoS class 2 (i.e., 15 – 19). As such, Appellant submits that even if Kannas and Rinne could be combined, the resulting system would still fail to teach or suggest Appellant's invention of claim 1, as a whole.

The test under 35 U.S.C. §103 is not whether an improvement or a use set forth in a patent would have been obvious or non-obvious; rather the test is whether the claimed invention, considered as a whole, would have been obvious. Jones v. Hardy, 110 USPQ 1021, 1024 (Fed. Cir. 1984) (emphasis added). Moreover, the invention as a whole is not restricted to the specific subject matter claimed, but also embraces its properties and the problem it solves. In re Wright, 6 USPQ 2d 1959, 1961 (Fed. Cir. 1988) (emphasis added). For at least the reasons described herein, Kannas and Rinne, alone or in combination, fail to teach or suggest Appellant's invention of at least claim 1, as a whole.

As such, for at least the reasons stated above, the Appellant respectfully submits that independent claim 1 is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder. Furthermore, claims 2-3 and 5 depend from independent claim 1 and recite additional limitations thereof. Therefore, for at least the same reasons set forth above, Appellant submits that these dependent claims are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder.

Therefore, Appellant respectfully requests that the Examiner's rejections be withdrawn.

B. Claims 6-9:

The Examiner has rejected claims 6-9 as being obvious and unpatentable under the provisions of 35 U.S.C. §103(a). In particular, the Examiner has rejected claims 6-9 as being unpatentable over Kannas in view of Rinne.

As described hereinabove, Kannas and Rinne, alone or in combination, fail to teach or suggest Appellant's claim 1, as a whole. Namely, Kannas and Rinne, alone or in combination, fail to teach or suggest at least the limitation of "wherein during said negotiation said mobile station issues a request for preferred ones of traffic classes in a priority order, wherein the request includes a quality of service information element

having at least one traffic class field for conveying the request for preferred ones of traffic classes in said priority order," as claimed in Appellant's claim 1.

Appellant's claim 6 includes a similar limitation of "transmitting from the first packet server to the second packet server a message including a quality of service information element having a quality of service class field that is indicative of a request for preferred ones of traffic classes in a priority order." As such, for at least the reasons discussed hereinabove with respect to claim 1, Appellant submits that Kannas and Rinne, alone or in combination, also fail to teach or suggest Appellant's claim 6, as a whole.

As such, for at least the reasons stated above, the Appellant respectfully submits that independent claim 6 is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder. Furthermore, claims 7-9 depend from independent claim 6 and recite additional limitations thereof. Therefore, for at least the same reasons set forth above, Appellant submits that these dependent claims are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder.

Therefore, Appellant respectfully requests that the Examiner's rejections be withdrawn.

C. Claim 14:

The Examiner has rejected claim 14 as being obvious and unpatentable under the provisions of 35 U.S.C. §103(a). In particular, the Examiner has rejected claim 14 as being unpatentable over Kannas in view of Rinne.

As described hereinabove, Kannas and Rinne, alone or in combination, fail to teach or suggest Appellant's claim 1, as a whole. Namely, Kannas and Rinne, alone or in combination, fail to teach or suggest at least the limitation of "wherein during said negotiation said mobile station issues a request for preferred ones of traffic classes in a priority order, wherein the request includes a quality of service information element having at least one traffic class field for conveying the request for preferred ones of traffic classes in said priority order," as claimed in Appellant's claim 1.

Appellant's claim 14 includes a similar limitation of "a processor for causing the second packet server to transmit a message including a quality of service information

element, said element having at least one traffic class field that conveys requests for preferred ones of traffic classes in a priority order." As such, for at least the reasons discussed hereinabove with respect to claim 1, Appellant submits that Kannas and Rinne, alone or in combination, also fail to teach or suggest Appellant's claim 14, as a whole. Specifically, since Kannas and Rinne, alone or in combination, fail to teach or suggest a quality of service information element having at least one traffic class field for conveying the request for preferred ones of traffic classes in a priority order, Kannas and Rinne, alone or in combination, must also fail to teach or suggest a processor causing a packet server to transmit a message including a quality of service information element having at least one traffic class field that conveys requests for preferred ones of traffic classes in a priority order, as claimed in Appellant's claim 14.

As such, for at least the reasons stated above, the Appellant respectfully submits that independent claim 14 is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder.

Therefore, Appellant respectfully requests that the Examiner's rejections be withdrawn.

D. Claim 15:

The Examiner has rejected claim 15 as being obvious and unpatentable under the provisions of 35 U.S.C. §103(a). In particular, the Examiner has rejected claim 15 as being unpatentable over Kannas in view of Rinne.

As described hereinabove, Kannas and Rinne, alone or in combination, fail to teach or suggest Appellant's claim 1, as a whole. Namely, Kannas and Rinne, alone or in combination, fail to teach or suggest at least the limitation of "wherein during said negotiation said mobile station issues a request for preferred ones of traffic classes in a priority order, wherein the request includes a quality of service information element having at least one traffic class field for conveying the request for preferred ones of traffic classes in said priority order," as claimed in Appellant's claim 1.

Appellant's claim 15 includes similar limitations of "a quality of service class field that is indicative of a request for preferred ones of traffic classes in a priority order" and

"at least one traffic class field that conveys the priority order." As such, for at least the reasons discussed hereinabove with respect to claim 1, Appellant submits that Kannas and Rinne, alone or in combination, also fail to teach or suggest Appellant's claim 15, as a whole. Specifically, since Kannas and Rinne, alone or in combination, fail to teach or suggest a quality of service information element having at least one traffic class field for conveying the request for preferred ones of traffic classes in a priority order, Kannas and Rinne, alone or in combination, must also fail to teach or suggest a transmission frame having a quality of service class field that is indicative of a request for preferred ones of traffic classes in a priority order and at least one traffic class field that conveys the priority order, as claimed in Appellant's claim 15.

As such, for at least the reasons stated above, the Appellant respectfully submits that independent claim 15 is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder.

Therefore, Appellant respectfully requests that the Examiner's rejections be withdrawn.

E. Claims 16-17:

The Examiner has rejected claims 16-17 as being obvious and unpatentable under the provisions of 35 U.S.C. §103(a). In particular, the Examiner has rejected claims 16-17 as being unpatentable over Kannas in view of Rinne.

As described hereinabove, Kannas and Rinne, alone or in combination, fail to teach or suggest Appellant's claim 1, as a whole. Namely, Kannas and Rinne, alone or in combination, fail to teach or suggest at least the limitation of "wherein during said negotiation said mobile station issues a request for preferred ones of traffic classes in a priority order, wherein the request includes a quality of service information element having at least one traffic class field for conveying the request for preferred ones of traffic classes in said priority order," as claimed in Appellant's claim 1.

Appellant's claim 16 includes a similar limitation of "wherein requesting from said wireless network preferred ones of traffic classes comprises transmitting to the wireless data network a quality of service information element having at least one quality of service class field that is indicative of a request for preferred ones of traffic classes in

said priority order." As such, for at least the reasons discussed hereinabove with respect to claim 1, Appellant submits that Kannas and Rinne, alone or in combination, also fail to teach or suggest Appellant's claim 16, as a whole.

As such, for at least the reasons stated above, the Appellant respectfully submits that independent claim 16 is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder. Furthermore, claim 17 depends from independent claim 16 and recites additional limitations thereof. Therefore, for at least the same reasons set forth above, Appellant submits that this dependent claim is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder.

Therefore, Appellant respectfully requests that the Examiner's rejections be withdrawn.

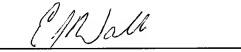
CONCLUSION

Thus, Appellant submits that none of the claims presently in the application are obvious under the provisions of 35 U.S.C. §103. Consequently, Appellant believes all these claims are presently in condition for allowance.

For the reasons advanced above, Appellant respectfully submits that the rejections of claims 1-3, 5-9 and 14-17 as being obvious under 35 U.S.C. §103 are improper. Reversal of the rejections of the Final Office Action is respectfully requested.

Respectfully submitted,

1/22/07



Eamon J. Wall
Registration No. 39,414
Patterson & Sheridan, L.L.P.
595 Shrewsbury Avenue, Suite 100
Shrewsbury, New Jersey 07702
Telephone: 732-530-9404
Telephone: 732-530-9808

CLAIMS APPENDIX

1. (Previously presented) A method for use by a mobile station, the method comprising the step of:

negotiating a variable quality of service between a mobile station and a wireless data network, when said mobile station is connected to said wireless data network; and

wherein during said negotiation said mobile station issues a request for preferred ones of traffic classes in a priority order, wherein the request includes a quality of service information element having at least one traffic class field for conveying the request for preferred ones of traffic classes in said priority order;

wherein, when resources are unavailable for granting a first traffic class preference, said network successively checks, according to said priority order, if enough resources are available for at least one other traffic class preference without requiring additional mobile station transmissions.

2. (Previously presented) The method of claim 1, wherein the quality of service information element comprises a downgradeable quality of service class field that is indicative that the priority order of the preferred ones of traffic classes is in an order of decreasing quality of service.

3. (Previously presented) The method of claim 1, wherein the quality of service information element comprises an upgradeable quality of service class field that is indicative that the priority order of the preferred ones of traffic classes is in an order of increasing quality of service;

wherein said network successively checks, according to said priority order, if enough resources are available for granting at least one upgraded traffic class preference without requiring additional mobile station transmissions.

4. (Cancelled)

5. (Previously presented) The method of claim 1, wherein the negotiating step includes the step of initiating an activate packet data protocol (PDP) context procedure

that supports one of downgradeable quality of service requirements or upgradeable quality of service requirements.

6. (Previously presented) A method for use by a first packet server of a wireless network, the first packet server being any packet processor in said network, the method comprising the steps of:

the first packet server exchanging messages with a second packet server to communicate at least one service to a mobile station,

wherein the exchanging step includes the step of:

transmitting from the first packet server to the second packet server a message including a quality of service information element having a quality of service class field that is indicative of a request for preferred ones of traffic classes in a priority order, and when resources are unavailable for granting a first traffic class preference, said network successively checks, according to said priority order, if enough resources are available for at least one other traffic class preference without requiring additional transmissions.

7. (Previously presented) The method of claim 6 wherein the quality of service information element comprises a downgradeable quality of service class field that is indicative that the priority order of the preferred ones of traffic classes is in an order of decreasing quality of service.

8. (Previously presented) The method of claim 6 wherein the quality of service information element comprises an upgradeable quality of service class field that is indicative that the priority order of the preferred ones of traffic classes is in an order of increasing quality of service;

wherein said network successively checks, according to said priority order, if enough resources are available for granting at least one upgraded traffic class preference without requiring additional mobile station transmission.

9. (Previously presented) The method of claim 6 wherein the exchanging step includes the step of initiating an activate packet data protocol (PDP) context procedure

that supports variable quality of service requirements.

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Previously presented) A packet server comprising:

a transceiver for exchanging messages with a second packet server for a purpose of providing at least one service to a mobile station; and

a processor for causing the second packet server to transmit a message including a quality of service information element, said element having at least one traffic class field that conveys requests for preferred ones of traffic classes in a priority order, and when resources are unavailable for granting a first traffic class preference in said request for multiple traffic classes, said processor successively checks, according to said priority order, if enough resources are available for at least one other traffic class preference without requiring additional transmissions.

15. (Previously presented) A transmission frame representing data embodied in a wireless transmission signal, the transmission frame comprising:

a quality of service class field that is indicative of a request for preferred ones of traffic classes in a priority order; and

at least one traffic class field that conveys the priority order.

16. (Previously presented) A method for use by a mobile station attached to a wireless network, the method comprising the step of:

requesting from said wireless network preferred ones of traffic classes in a priority order as part of a variable quality of service negotiation, and when resources are

unavailable for granting a first traffic class preference, said network successively determines, according to said priority order, whether enough resources are available to provide a second traffic class preference;

wherein requesting from said wireless network preferred ones of traffic classes comprises transmitting to the wireless data network a quality of service information element having at least one quality of service class field that is indicative of a request for preferred ones of traffic classes in said priority order.

17. (Previously presented) The method of claim 16 wherein the quality of service information element is indicative of one of a request for a downgradeable quality of service or a request for an upgradeable quality of service.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None